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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,035	12/04/2003	Vladimir Vitalevitch Ivanov	081468-0307072	4850

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EXAMINER

QUASH, ANTHONY G

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/727,035

Applicant(s)

IVANOV ET AL.

Examiner

Anthony Quash

Art Unit.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-8 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-8 and 10-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/12/05
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

Claims 2,9, and 16 have been canceled by applicants' amendment, filed 1/11/06.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,3,5-10,12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Koster [EP 1,223,468]. With respect to claims 1,8,15, Koster [EP 1,223,468] discloses a lithographic apparatus comprising an illumination system that provides a beam of radiation, a support structure that support a patterning structure, the patterning structure configured to impart the beam of radiation with a pattern in its cross-section, a substrate support that supports a substrate, and a projection system that projects the patterned beam onto a target portion of the substrate, the illumination system comprising a radiation-production system that produces extreme ultra-violet radiation wherein particles produced as a by-product of extreme ultra-violet radiation production move substantially in a particle-movement direction, wherein the radiation-production system comprises two oppositely chargeable electrodes that generate an electric field therebetween (Koster [EP 1,223,468] explicitly shows two electrode plates 136 having a positive charge, 134 having a negative charge. It is inherent that there is an electric

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field between the two electrodes since the field goes from positive to negative. Fig. 2), and the electric field substantially follows an axial direction of the radiation-production system. See Koster [EP 1,223,468] abstract, figs. 1-2, paragraphs [0001-0003,0005-0015,0018-0030], and claims 1, 17.

With respect to claims, 3,5-7,10,11-14, Koster [EP 1,223,468] discloses the collection-direction being in a radial direction of the radiation-production system (figs. 1-2), the radiation-collection system having an optical axis substantially parallel to the axial direction of the radiation-production system, the radiation-collection system having an optical axis substantially parallel to the radial direction of the radiation-production system, and the radiation-collection system comprising an optical system that provides the beam of radiation. See Koster [EP 1,223,468] abstract, figs. 1-2, paragraphs [0001-0003,0005-0015,0018-0030], and claims 1, 17.

Claims 1,3,5-10,12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Koster [6,614,505]. Claims 1,3,5-10,12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Koster [6,614,505]. With respect to claims 1,8,15, Koster [6,614,505] discloses a lithographic apparatus comprising an illumination system that provides a beam of radiation, a support structure that support a patterning structure, the patterning structure configured to impart the beam of radiation with a pattern in its cross-section, a substrate support that supports a substrate, and a projection system that projects the patterned beam onto a target portion of the substrate, the illumination system comprising a radiation-production system that produces extreme ultra-violet radiation wherein particles produced as a by-product of extreme ultra-violet radiation

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production move substantially in a particle-movement direction, wherein the radiation-production system comprises two oppositely chargeable electrodes that generate an electric field therebetween (Koster [6,614,505] explicitly shows two electrode plates 136 having a positive charge, 134 having a negative charge. It is inherent that there is an electric field between the two electrodes since the field goes from positive to negative. Fig. 2), and the electric field substantially follows an axial direction of the radiation-production system. See Koster [6,614,505] abstract, figs. 1-2, col. 1 lines 10-67, col. 2 lines 1-45, col. 3 lines 15-20,35-67, col. 4 lines 13-65, col. 5 lines 20-25,45-67, col. 6 lines 1-15,30-67, column 7, col. 8 lines 1-10,50-67, col. 9 lines 1-7, and claims 1, 17.

With respect to claims, 3,5-7,10,11-14, Koster [6,614,505] discloses the collection-direction being in a radial direction of the radiation-production system (figs. 1-2), the radiation-collection system having an optical axis substantially parallel to the axial direction of the radiation-production system, the radiation-collection system having an optical axis substantially parallel to the radial direction of the radiation-production system, and the radiation-collection system comprising an optical system that provides the beam of radiation. See Koster [6,614,505] abstract, figs. 1-2, col. 1 lines 10-67, col. 2 lines 1-45, col. 3 lines 15-20,35-67, col. 4 lines 13-65, col. 5 lines 20-25,45-67, col. 6 lines 1-15,30-67, column 7, col. 8 lines 1-10,50-67, col. 9 lines 1-7, and claims 1, 17.

The applied reference has a common assignee and inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention

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disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4,11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koster [EP 1,223,468]. With respect to the claims, Koster [EP 1,223,468] teaches all aspects of the claims except for explicitly stating that at least one of the electrodes being substantially ring-shaped, and an axis of each ring-shaped electrode substantially coincides with the axial direction of the radiation-production system. Koster [EP 1,223,468] does however, teach several electrodes on each side of the beam (pb). See Koster [EP 1,223,468] fig. 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have at least one of the electrodes be substantially ring-shaped, and an axis of each ring-shaped electrode substantially coincide with the axial direction of the radiation-production system, since it has been held that the configuration of the electrodes, was a matter of choice which one of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed shape was significant.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1,3-8,10,12-15 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent and Published Patent Application Nos. 6,972,421 to Melnychuk et al, and 2004/0130694 to Kurt et al, are considered pertinent to the applicants' disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Quash whose telephone number is (571)-272-2480. The examiner can normally be reached on Monday thru Friday 9 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571)-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. Quash

*AQ*  
3/25/06

  
JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
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